

Exhibit C

PALM CENTER

BLUEPRINTS FOR SOUND PUBLIC POLICY

Discharging Transgender Troops Would Cost \$960 Million

Aaron Belkin, PhD
Professor, San Francisco State University
Director, Palm Center

Frank J. Barrett, PhD*
Professor, Graduate School of Business and Public
Policy, Naval Postgraduate School

Mark J. Eitelberg, PhD*
Professor Emeritus, Naval Postgraduate School

Marc J. Ventresca, PhD*
Former Research Associate Professor,
Graduate School of Business and Public Policy, Naval
Postgraduate School

August 2017

EXECUTIVE SUMMARY

- 1) President Trump has tweeted that transgender individuals cannot serve in the armed forces because our military “cannot be burdened with the tremendous medical costs,” which we presume refers to the cost of providing medically necessary transition-related health care to transgender personnel.
- 2) We are not aware of any full-scale analysis of the costs of discharging transgender personnel from the armed forces, although scholars have addressed financial costs associated with the provision of transition-related health care to transgender service members.
- 3) If decisions about whether to allow military service by transgender personnel are based on financial considerations, policymakers should take into account the costs of discharging transgender service members, not just the costs of retaining them.
- 4) We estimate that the financial cost of fully implementing President Trump’s ban on transgender service members would be \$960 million.
- 5) We derive our estimate by multiplying the number of transgender service members (12,800) by the average per-person cost of recruiting and training a replacement for each service member who is discharged (\$75,000).
- 6) By comparison, the RAND Corporation has found that the military’s total annual cost of providing transition-related health care is, at most, \$8.4 million.
- 7) The average annual cost of providing transition-related care for the entire population of transgender troops is \$656 per transgender service member per year, because most transgender personnel do not require transition-related care during their military careers.
- 8) The upshot of our analysis is that implementing President Trump’s transgender service ban would cost \$75,000 per person in order to accrue an annual savings of \$656 per person. For the military as a whole, fully implementing President Trump’s ban would cost \$960 million in pursuit of saving \$8.4 million per year.

Introduction

On July 26, 2017, President Donald Trump tweeted that, “the United States government will not accept or allow transgender individuals to serve in any capacity in the U.S. Military.” According to the President, “Our military ... cannot be burdened with the tremendous medical costs,” presumably referring to the cost of providing medically necessary transition-related health care to transgender personnel.¹ While commentators and scholars have addressed financial costs associated with the provision of such care, we are not aware of any analysis of the costs of discharging transgender personnel from the armed forces. If decisions concerning whether to allow transgender personnel to serve are based on financial considerations, then policymakers should take into account the costs of discharging the service members, not just the costs of retaining them under a policy of equal treatment.

In this policy memo, we estimate that the financial cost of fully implementing President Trump’s ban on transgender service members would be \$960 million. In addition, we compare the cost of fully implementing the ban to the cost of providing medically necessary transition-related health care to transgender personnel. Given that the total annual cost of providing such care is, at most, \$8.4 million, the \$960 million price tag of fully implementing President Trump’s ban is more than 100 times greater than the annual cost of retaining transgender service members and providing for their health care needs.²

Methodology

Several standard methodological approaches can be used to estimate the cost of discharging service members, each with specific data needs and each well-documented in the research and policy literature. For this analysis, we use a replacement-cost method that assumes the military must pay to recruit and train one replacement service member for each individual who is discharged. To derive the estimate reported here, we multiply the number of service members who will be discharged by the cost of recruiting and training one replacement. In the next section of our report, we review several approaches for calculating implementation costs and explain why we utilize the replacement-cost approach.

Lost-value method

In 2006, a Blue Ribbon Commission consisting of a former Secretary of Defense as well as experts in military personnel policy estimated the financial cost of implementing the “don’t ask, don’t tell” policy over a ten-year period, from FY 1994 through FY 2003. According to the Commission, the cost of discharging 9,359 service members for homosexuality during this period was \$363.8 million, or \$38,872 per person. Unlike the studies described below that emphasize the cost of replacing each service member who was discharged, the Commission’s focus was the value that the military would have accrued from each service member who was discharged “had they not been discharged prematurely.” The Commission’s emphasis, in other words, was lost-benefit costs, or

“costs associated with losses to the military because a trained person is not in the services anymore.”³

To estimate the lost value for each premature discharge, and based on its access to individual-level data on training courses that had been completed by service members who were discharged, the Commission estimated the cost of recruiting and training almost every individual who was discharged for homosexuality during the ten-year period under consideration. Then, the Commission estimated “how much of that investment the military recovered from each individual during a ‘cost recovery period.’”⁴ Finally, the Commission subtracted the amount of recovered value from the initial investment.⁵ The Commission’s methodology recognized that the military lost a great deal of value from service members who were discharged shortly after initial skills training—that is, after a significant investment had been made in their training but before they had returned any value to the armed forces. In other cases, when service members were discharged after they had served a great deal of time, the military recovered much of its investment. To use this approach, the Commission required training and length of service data for individuals who had been discharged. These more precise data are not available for this analysis at this time.

Replacement-cost method (Service-specific data)

In 2011, the Government Accountability Office (GAO) issued a report on costs associated with implementing the “don’t ask, don’t tell” policy over a six-year period, from FY 2004 through FY 2009.⁶ According to GAO, the cost of discharging 3,664 service members for homosexuality during this period was \$193.3 million, or \$52,800 per separation. To arrive at its estimate, GAO added the cost of replacing service members who had been discharged (\$185.6 million) to the administrative costs of separation (\$7.3 million).⁷ GAO defined replacement cost in terms of the cost to recruit and train new service members who would replace those who had been discharged.

For recruiting costs, GAO calculated the average per-person recruiting cost for each Service during each fiscal year under consideration, and then “multiplied each of these averages by the number of separated servicemembers for each service.”⁸ For training costs, “GAO included variable costs, such as recruiting bonuses, and excluded fixed costs, such as salaries and buildings ... because ... there would likely be no significant increase in fixed costs when recruiting and training a relatively small number of replacement personnel” (executive summary). Because GAO had access to Service-specific training cost data, as well as individual-level data about the occupational specialties of service members who had been discharged for homosexuality, it was able to estimate the average cost of recruit training for each Service in each fiscal year. GAO was also able to estimate the cost of initial skills (occupational) training in relevant occupations and then multiply those costs “by the number of service members who held that occupation in the year of their separation.”⁹

As is the case with any estimation technique, GAO’s methodology had limitations. For example, unlike the Army and Marine Corps, “the Navy was not able to fully

disaggregate fixed and variable costs, and so our Navy recruiting calculations include some fixed costs.”¹⁰ Nevertheless, GAO took extraordinary measures to assess the reliability of its data, and its estimate is supported by GAO’s access to Service-specific cost data as well as occupational data associated with specific service members who had been discharged.

Replacement-cost method (non-Service-specific data)

In this report, we rely on a replacement-cost approach that is similar to GAO’s methodology, but without Service-specific data about the cost of recruiting and training or individual-level data about occupational specialties. We cannot use the Blue Ribbon Commission’s lost-value methodology because we lack individual data about the length of service or training courses completed by transgender service members currently serving in the armed forces. Thus, we cannot distinguish the military’s initial investment in recruiting and training from one transgender service member to another. Nor can we use GAO’s replacement-cost methodology, since we do not know how the population of transgender service members is distributed across the Services.

As a result, we use a replacement-cost approach that depends on average, DOD-wide per-person training and recruiting costs. Consistent with this approach, we multiply the number of transgender persons currently serving in the U.S. armed forces times the average cost of recruiting and training one replacement. Because the President has said that the military “will not accept or allow transgender individuals to serve in any capacity,” our estimation technique is premised on the assumption that, if the President’s order were fully implemented, the armed forces would be required to replace every transgender service member who is discharged. Thus, the cost of implementing the order is the number of individuals who would be discharged multiplied by the cost of recruiting and training each replacement.

Variables

Average, per-person cost of recruiting and training

According to a 2015 estimate by Accession Medical Standards Analysis and Research Activity (AMSARA), “Recruiting, screening and training costs are approximately \$75,000 per enlistee.”¹¹ While the AMSARA estimate is not explained in available documents, our confidence in the estimate derives from three factors. First, a number of reputable sources rely on the estimate for their own calculations.¹² For example, a July 2017 GAO report on military personnel states that, “From fiscal year 2005 through fiscal year 2015, the military services enlisted over 1.7 million servicemembers at an estimated cost of approximately \$75,000 per enlistee, according to the Department of Defense (DOD).”¹³ GAO then cites the AMSARA data, indicating in a footnote that, “This is an estimated cost to recruit, screen and train an enlistee as reported by the Accession Medical Standards Analysis and Research Activity (AMSARA).”¹⁴

Second, the range of available per-person recruiting and training estimates is not large, and the AMSARA estimate is a middle-range estimate compared with other figures. For example, a higher-bound estimate is derived from the 2006 Blue Ribbon Commission, which reported that the cost to train one Soldier in 2004 was \$56,400, or \$70,766 in 2015 dollars, and that the per-person cost of recruiting was \$10,193, or \$11,984 in 2015 dollars: $\$11,984 + \$70,766 = \$82,750$.¹⁵ A lower-bound estimate is derived from GAO, which estimated in 1998 that the DOD-wide average per-person cost of enlisted training was \$28,800, or \$41,878 in inflation-adjusted figures.¹⁶ Adding the inflation-adjusted per-person recruiting cost of \$11,984 + to \$41,878 yields a lower-bound estimate of \$53,862.

Third, the AMSARA estimate is consistent with current cost estimates provided by two independent experts in military budgeting and personnel policy. In August 2017, a former senior Pentagon official with expertise in budgeting and personnel told us that the average, DOD-wide cost of recruiting and training, from entry to reporting to first duty station, is \$60,000, not including salary and benefits during training. With the addition of salary and benefits, the official's \$60,000 estimate would be quite close to the AMSARA estimate. A War College faculty member with expertise in budgeting and personnel told us in August 2017 that, in his Service, the average cost from arrival at recruit training to graduation is approximately \$76,000, including all overhead. Further, this figure increases to approximately \$83,000 to \$107,000 depending on the type of initial-skills training and the time of the year.¹⁷

Population of currently serving transgender service members

While media reports on military service by transgender personnel frequently mention that 15,000 transgender troops currently serve in the U.S. armed forces, “no studies have directly measured the prevalence or incidence of transgender individuals currently serving in the active or reserve component.”¹⁸ In the absence of opportunities to measure the population directly, scholars have relied on estimates instead. Gary Gates and Jody Herman at UCLA Williams Institute published a 2014 study estimating that 15,500 transgender troops serve in the armed forces.¹⁹ Professor Aaron Belkin published a 2015 *New England Journal of Medicine* study in which he estimated that 12,800 transgender troops serve in the armed forces.²⁰ Additionally, the RAND Corporation published a 2016 study that included five estimates of the population of transgender service members, ranging from a low of 2,150 to a high of 10,790.²¹

Gates and Herman are widely recognized as leading experts in estimating LGBT populations whose sizes are difficult to ascertain. Based on surveys that include questions about military service, they begin by estimating that approximately 21.4 percent of transgender adults have served in the armed forces.²² Gates has estimated that there are approximately 700,000 transgender adults in the U.S.²³ With these two data points, Gates and Herman calculated that approximately 150,000 transgender adults serve or have served in the military. Gates and Herman then determined that among *non-transgender* American adults, “5.4% of men who report any military service are on active duty along with 9.8% of women.”²⁴ Assuming that the ratio of currently serving troops to veterans is

the same for transgender and non-transgender populations, Gates and Herman then apply the ratios above (5.4% of men and 9.8% of women) to the estimated population of transgender veterans and estimate that 15,500 transgender Americans serve currently in the military.²⁵ In 2015, Belkin adjusted the Gates/Herman estimate downward to reflect the downsizing of the armed forces in recent years as well as the fact that Gates and Herman had included troops in the Individual Ready Reserve. Belkin thus arrived at the estimate of 12,800.²⁶

In 2016, the RAND Corporation calculated five estimates of the number of currently serving transgender personnel in the Active and Reserve components. RAND “applied measures of population prevalence to DOD force size estimates to estimate the prevalence in the U.S. military” of transgender individuals.²⁷ In other words, RAND identified distinct estimates of the percentage of transgender civilian adults in the U.S. and then multiplied these percentages by the size of the U.S. military. For example, RAND multiplied the estimated percentage of transgender adults in California (.1%) by the size of the military, including Active and Reserve components, to derive its lower bound estimate of 2,150, and the estimated percentage of transgender adults in Massachusetts (.5%) by the size of the military to derive its upper bound estimate of 10,790. RAND multiplied a weighted California and Massachusetts estimate (.16%) by the size of the military to derive a middle-range estimate of 3,450. RAND then multiplied the size of the military force by “an adjustment of this population-weighted approach based on the natal male/female distribution in the military, yielding a prevalence estimate of 0.19 percent; and ... a doubling of the population-weighted, gender-adjusted value, yielding a prevalence estimate of 0.37 percent.”²⁸ These gender-adjusted calculations yielded middle-range estimates of the population of transgender service members of 3,960 and 7,830.

In our calculations, we rely on Belkin’s estimate of 12,800 because it falls between the lower- and higher-bound estimates of RAND and Gates/Herman, and because the military downsized after the latter published their data. Belkin’s 2015 calculations reflect this reduction.

Cost of care and utilization rates

Belkin estimated in 2015 that 188 transgender service members would require transition-related care (surgery and/or hormones) in any given year and that the total cost to provide such care would be \$5.6 million.²⁹ In 2016, RAND estimated that between 49 and 420 transgender service members would require transition-related care (surgery and/or hormones) in any given year and that the total cost to provide such care would be between \$2.4 million and \$8.4 million.³⁰

U.S. Representative Vicky Hartzler estimated recently that the cost of providing transition-related care to transgender service members would be \$1.3 billion over the next ten years.³¹ Rep. Hartzler erred, however, in assuming that every transgender service member who requires surgery needs “the full catalog of surgical options,” rather than relying on data about the actual utilization of transition-related care, as Belkin and RAND

did.³² Moreover, Rep. Hartzler’s estimate that 30 percent of transgender service members require surgery is not based on data reflecting actual utilization rates. By contrast, the Belkin and RAND estimates are based on actual utilization rates from insurance pools consisting of, at minimum, hundreds of thousands of insurance-years. Unlike Belkin’s study, which was published in one of the pre-eminent peer-reviewed medical journals in the world, Rep. Hartzler’s estimates were calculated by her office staff, whose scholarly credentials are unknown.³³

Family Research Council Senior Fellow Peter Sprigg estimated recently that the cost of providing transition-related care to service members will be \$3.7 billion over the next ten years.³⁴ Sprigg errs, however, in assuming “that every transitioning service member would request a one-year leave of absence at a 10-year cost of \$1.8 billion,” an assumption that is inconsistent with scholarship on gender transition as well as the experiences of foreign militaries that allow transgender personnel to serve.³⁵ Similar to Hartzler, Sprigg wrongly assumes that every transgender service member who requires surgery needs a “comprehensive package” of treatment (\$110,450 for transgender men and \$89,050 for transgender women), rather than relying on data about actual utilization rates and the actual average cost of transition-related care (\$31,931).³⁶ Finally, Sprigg’s estimate that 6,900 transgender service members will require surgery is based on non-random survey data concerning the percent of transgender individuals who say that they plan to have surgery. Scholars have confirmed, however, that actual utilization rates are lower than self-reports of an intent to have surgery.³⁷

Given the numerous errors in Hartzler’s and Sprigg’s calculations—measured against the scholarly and peer-reviewed research on cost of care that Belkin and the RAND authors have published—we rely on RAND’s higher-bound cost estimate of \$8.4 million per year.

Cost of discharging all transgender personnel

Our estimate is that the cost of discharging all transgender personnel from the military would be \$960 million. We arrived at our estimate by multiplying the per-person cost of recruiting and training replacements by the number of currently serving transgender service members: $\$75,000 \times 12,800 = \960 million.

In addition, we compare the cost of fully implementing the President’s ban with two related figures. First, according to analysts at the RAND Corporation, and as addressed above, the cost of providing medically necessary transition-related health care to transgender personnel is, at most, \$8.4 million per year.

Second, as mentioned above, the average total per-person cost of transition-related health care *for those service members who need it* is \$31,931. The average total per-person cost of care for those who need it (\$31,931) is higher than the average annual per-person cost of providing care for the entire population of transgender service members (\$656) because most transgender personnel do not require transition-related care during their military careers.³⁸ Thus, even when focusing exclusively on those transgender service

members who need transition-related care, President Trump's announced ban does not make financial sense. On a per-person basis, the military would spend \$75,000 to achieve a savings of \$31,931.

Lower- and higher-bound estimates

The actual cost of implementing the President's order may be lower than our estimate if the actual cost of training and recruiting is less than \$75,000, and/or if the actual population of transgender personnel is less than 12,800. To estimate this lower-bound amount, we use the lowest training and recruiting cost estimate that we identified (\$53,862), and the lowest population estimate (2,150), to arrive at an estimated total cost of \$115 million ($\$53,862 \times 2,150 = \115 million). Another possibility is that the military may be unable to identify all transgender personnel, and may instead discharge only those transgender service members who revealed their gender identity following the June 30, 2016 announcement of an inclusive policy. The Coast Guard Commandant reported on August 1, 2017 that 13 transgender members of the Coast Guard have revealed their gender identity. With a total Active and Selected Reserve force of 47,992, this means that .00027 of Coast Guard members have revealed that they are transgender.³⁹ If applied to the entire U.S. military, this would mean that $.00027 \times 2,165,000 = 585$ transgender service members have revealed their gender identity. If President Trump discharges all of the estimated 585 transgender service members who have acknowledged their gender identity, and using the lower-bound cost estimate for recruiting and training, the total cost of implementing the ban would be \$32 million ($\$53,862 \times 585 = \32 million).

By contrast, the actual cost of implementing the President's order may exceed our estimate if the actual cost of training and recruiting is more than \$75,000, and/or if the actual population of transgender personnel is greater than 12,800. To estimate this higher-bound amount, we use the highest training and recruiting cost estimate that we identified (\$82,750), and the highest population estimate (15,500), to arrive at a projected total cost of \$1.3 billion ($\$82,750 \times 15,500 = \1.3 billion). In addition, the \$75,000 average per-person recruiting and training cost that we relied upon in our calculations does not include administrative expenses associated with investigating and discharging transgender personnel, or separation costs (such as separation travel) associated with each discharge. Administrative costs of enforcing the ban could be quite high, as a single trial can cost millions of dollars in staff time. (At the time of writing, the authors are aware of several litigation teams preparing lawsuits to challenge the ban.) Finally, our cost estimates, for the most part, capture the cost of training enlisted personnel, not officers. If the military discharges even a handful of transgender officers performing mission-critical specialties, such as physicians or fighter pilots, the cost of enforcing the ban would exceed our estimates.

Conclusion:

Our analysis, which is intended to support public discussion of an important national policy issue, suggests that the direct and indirect costs associated with implementing an order to discharge all transgender military personnel, as tweeted by President Trump on

July 26, 2017, would be \$960 million. We arrived at our estimate by multiplying the number of currently serving transgender service members by the cost of recruiting and training replacements. Given that the cost of providing medically necessary transition-related care to transgender personnel is, at most, \$8.4 million per year, the \$960 million price tag for fully implementing President Trump's ban is more than 100 times greater than the annual cost of retaining transgender service members and providing for their health care needs.

*The views and findings expressed here are those of the authors and should not be assumed to reflect an official policy, position or decision of the U.S. Naval Postgraduate School or the U.S. Government.

¹ Bowden J, Mattis Appalled by Trump Tweets Announcing Transgender Ban: Report, *The Hill*, July 28, 2017.

² Schaefer A, Iyengar R, Kadiyala S, Kavanagh J, Engel C, Williams K and Kress A, *Assessing the Implications of Allowing Transgender Personnel to Serve Openly*. Santa Monica: RAND Corporation, 2016.

³ All quotes in the paragraph are from Blue Ribbon Commission, *Financial Analysis of "Don't Ask, Don't Tell": How Much Does the Gay Ban Cost?*, 2006, 6.

⁴ Blue Ribbon Commission 2006, 7.

⁵ The Commission included separation travel as well.

⁶ Government Accountability Office 11-170, *Military Personnel: Personnel and Cost Data Associated with Implementing DOD's Homosexual Conduct Policy*, 2011.

⁷ Administrative costs were "costs associated with certain legal activities, such as board hearings, and nonlegal activities, such as processing separation paperwork." GAO 2011, executive summary.

⁸ GAO 2011, 33.

⁹ GAO 2011, 35.

¹⁰ GAO 2011, 33.

¹¹ Accession Medical Standards Analysis & Research Activity (AMSARA), <http://www.amsara.amedd.army.mil/Default.aspx>, last modified date April 1, 2015, accessed August 3, 2017.

¹² Brooks SM. Occupational Medicine Model and Asthma Military Recruitment. *Military Medicine* 2015; 180 (11):1140; Tanofsky-Kraff M et al. Obesity and the US Military Family. *Obesity* (Silver Spring) 2013; 21 (11): 2205–2220; Institute of Medicine, *Treatment for Posttraumatic Stress Disorder in Military and Veteran Populations: Final Assessment*. Washington DC: The National Academies Press, 2014, 90; Defense Health Board, *Implications of Trends in Obesity and Overweight for the Department of Defense*, 2013, 61.

¹³ Government Accountability Office 17-527, *Report on Military Personnel: Improvements Needed in the Management of Enlistees' Medical Early Separation and Enlistment Information*, 2017, 1.

¹⁴ GAO 2017, 1.

¹⁵ Blue Ribbon 2006, 13.

¹⁶ Government Accountability Office 98-213, *Military Attrition: Better Data, Coupled with Policy Changes, Could Help the Services Reduce Early Separations*, 1998, 27-28.

¹⁷ Private communications with the authors.

¹⁸ Schaefer et. al. 2016, 14.

¹⁹ Gary Gates and Jody Herman, *Transgender Military Service in the United States*. Los Angeles: Williams Institute, 2014.

²⁰ Aaron Belkin, Caring for Our Transgender Troops – The Negligible Cost of Transition-Related Care, *New England Journal of Medicine* 2015; 373: 1089-1092.

²¹ Schaefer et. al. 2016, 16.

²² Gates and Herman 2014.

²³ Gary Gates, *How Many People Are Lesbian, Gay, Bisexual, and Transgender*. Los Angeles: Williams Institute, 2011; Gates and Herman 2014, 4.

²⁴ Gates and Herman 2014, 4.

²⁵ Gates and Herman 2014, 4.

²⁶ Belkin 2015.

²⁷ Schaefer et. al. 2016, 14.

²⁸ Schaefer et. al. 2016, 15.

²⁹ Belkin 2015.

³⁰ Schaefer et. al. 2016, 31; 36.

³¹ Harrington E. Transgender Surgeries Would Cost Pentagon \$1.3 Billion, *Washington Free Beacon* July 27, 2017.

³² Sivak D. Fact Check: Do Trans People Add ‘Tremendous Medical Costs’ to Military Budget?, *Daily Caller* August 1, 2017.

³³ Harrington 2017.

³⁴ Peter Sprigg, *Transgender Policy Could Cost Military Billions Over Ten Years*. Washington: Family Research Council, 2017.

³⁵ Sivak 2017; Schaefer et. al. 2016.

³⁶ In 2012, California’s Department of Insurance reported that the average cost-per-claimant price of transition-related care (surgery and/or hormones) was \$29,929. Adjusted to 2017 dollars, the price is \$31,931. See State of California Department of Insurance REG-2011-00023, *Economic Impact Assessment: Gender Nondiscrimination in Health Insurance*, 2012.

³⁷ Jody Herman, *Costs and Benefits of Providing Transition-Related Health Care Coverage in Employee Health Benefits Plans*. Los Angeles: Williams Institute, 2013.

³⁸ The military’s average annual per-person cost of providing transition-related care is \$656 per transgender service member (\$8.4 million / 12,800 = \$656).

³⁹ United States Coast Guard web site, <http://www.overview.uscg.mil/Workforce/>, accessed August 2, 2017.